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TI Carrier transport polymers - useful as carrier transport materials in
organic thin film electroluminescence devices.
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Polymers of formula (I) are new.
 (where, m = positive integer; G1 = absent, arylene, alkylene, alkylidenedioxy or a gp. of formulae $-p-C_6H_4-O-p-C_6H_4-$ (II), $-p-C_6H_4-CH_2p-C_6H_4-$ (III), $-p-C_6H_4-C(CH_3)2-p-C_6H_4-$ (IV), $-O-$ (V), $-C(O)-$ (VI), $-C(O)-O-CH_2-$ (VII), $-C(O)-O-$ (VIII), $-CH_2-O-CH_2-$ (IX) and divinyl-benzene gp. (X); G2 = alkyl or halo-substd. alkyl; G3 = H or alkyl; G4 = a gp. of formulae p-phenylene (XI), p-biphenylene opt. substd. on each ring by G5 (XII), (II)-(IV), $-p-C_6H_4-C(CF_3)2-p-C_6H_4-$ (XIII), $-p-C_6H_4-S(O)2-p-C_6H_4-$ (XIV), $-p-C_6H_4-C(O)-p-C_6H_4-$ (XV), p-naphthyl (XVI), $-(p-C_6H_4)_3-$ (XVII), $-p-C_6H_4-C(CH_3)2-p-C_6H_4-C(CH_3)2-C_6H_4-$ (XVIII), divalent 9, 10-anthracene gp. (XIX), divalent fluorene gp. (XX), etc.; G5 = 1-12C alkyl or alkoxy).

USE - The polymers are useful as carrier transport materials or light-emitting materials in organic thin film electroluminescence devices and organic thin film photocells and carrier transport materials in electrophotographic photoreceptors.

ADVANTAGE - A carrier transport layer in organic thin film electroluminescence devices can be formed by film forming using a solvent such as spin coating and casting. The film obtd. has T_g of 120deg.C or more and an improved mechanical strength.

Dwg. 0/16

